

ROUTING AND TRANSMITTAL SLIP

Date

12/30/91

TO: (Name, office symbol, room number,
building, Agency/Post)

Initials

Date

1. BOB RICHARDS (E-JC)

2.

3.

4.

5.

<input checked="" type="checkbox"/> Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
<input checked="" type="checkbox"/> Comment	Investigate	Signature
Coordination	Justify	

REMARKS

THIS IS OUR REFERRAL PACKAGE FOR THE PROPOSED RCRA 3008(a) COMPLAINT FOR KNAPHEIDE MFG Co.. RUBEN MCCULLEN IS THE COMPLIANCE CONTACT FOR THIS CASE. HE WILL BE BACK IN THE OFFICE ON 1/6 SO YOU CAN CONTACT HIM THEN CONCERNING ANY QUESTION/ YOU MIGHT HAVE ON THIS REFERRAL. WE ARE PLANNING TO ISSUE THIS COMPLAINT AS PART OF THE 1/29/92 NATIONAL NON-NOTIFIED INITIATIVE.

D. Dyl

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

Room No.—Bldg.

Phone No.

5041-102

* U.S. GPO. 1990 — 262-080

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

CASE REVIEW OF: KNAPHEIDE MANUFACTURING COMPANY

Address: Highway 24
West Quincy, Mo

Mailing Address: 436 S. 6th Street
Box C140
Quincy IL 62306

EPA ID: MOD000766998
MO Generator ID: 004809



R00036131

RCRA Records Center

FINDINGS OF FACT:

1. Knapheide notified on August 18, 1980 as a large quantity generator of waste xylene and were issued the EPA ID Number listed above. They notified as generators of listed waste F017 and P090.
2. Knapheide was inspected on March 15, 1991 by Don Head and Sam Wilson, both employees of MDNR out of the MDNR Northeast Regional Office. A follow up inspection was performed on March 28, 1991.
3. MDNR referred the inspection for enforcement action to EPA Region 7. The inspection report was attached to a letter dated August 30, 1991 and received by RCRA Branch on September 12, 1991.
4. Knapheide manufactures truck beds, utility bodies and tool boxes. The manufactured units are primed, then painted prior to shipment. Metal components are cleaned prior to use with Detrex, an alkaline cleaner.
5. The waste streams identified during the inspection as being generated by the facility are; (1) waste xylene (F003, F005) which is generated at approximately 500 gallons a month (1582 kilograms per month), (2) waste oils (solid waste) which is mixed with the xylene prior to its disposal, (3) Waste Paint (F003, F005), (possibly one paint waste line that may be D007) which is generated at the rate of approximately 36 gallons a month (167 kilograms per month), and (4) waste paint filters and over spray paper (quantity unknown).
6. The facility stated that until the September 25, 1989 MDNR inspection, ignitable waste (D001) was burned in an on-site solid waste incinerator. They ceased burning after the inspection documented the open burning of hazardous waste. The inspection does not discuss the handling of the incinerator ash.
7. The facility decided to test their paint filters and overspray paper waste streams. Samples were taken, assigned the sample number 4310 and were analyzed on March 12, 1991 by Elizabeth Cohoon, laboratory manager for SCI Environmental, Inc.
8. During the MDNR follow-up inspection, page 2 of 2 of the Sample

No. 4310 was provided to the MDNR inspectors. This document indicated that the ignitability was greater than 200 degrees F., and therefore, was not D001. The complete analysis was not made available at the time of the inspection.

9. The complete analysis was faxed to MDNR on ? . The full analysis indicated that the sample had been analyzed for TCLP and found to have leachable chrome at 6.25 ppm, which exceeds the characteristic level of 5 ppm. The waste is classified D007 at 40 CFR § 262.24.

10. After the September 25, 1989 MDNR inspection, the D007 waste was accumulated on-site. At the time of the March 21, 1991 follow-up inspection by MDNR there were over 600 55-gallon drums of the waste stored on site.

11. The drums were not labelled as hazardous waste or stored as hazardous waste.

12. At the time of the follow-up inspection the facility indicated that only one paint line, called the "vinyl wash" line uses a chrome containing primer. Up to the follow-up inspection all filters had been stored together, but the facility stated they intend to store the vinyl wash filters separately in the future.

13. The MDNR inspection also discovered the following activities:

a. The facility did not maintain a copy of LDR notifications for hazardous waste manifested off site as required by 40 CFR § 268.7.

b. That the hazardous waste storage facility did not have adequate aisle space as required by MHWMC Regulations 10 SCR 25-5.262(2) reference to 40 CFR § 262.34(a)(4) reference to 40 CFR § 265.35.

c. That the Contingency plan is not current in that it contains outdated information. It should be updated as required by MHWMC Regulations 10 SCR 25-5.262(2) reference to 40 CFR § 262.34(a)(4) reference to 40 CFR § 265.54.

d. That the training documentation on site did not include the hazardous waste directors qualification or training as required by MHWMC Regulations 10 SCR 25-5.262(2) reference to 40 CFR § 262.34(a)(2) with reference to 40 CFR § 265.16(d)(4).

e. Manifest Nos. 91020 and 91021 did not include the alternate designated facility or instructions to the transporter to return the waste to the generator if the waste is undeliverable as required by MHWMC Regulations 10 SCR 25-5.262(2) referenced to 40 CFR § 262.20(c) and (d).

14. Other violations documented by MDNR are for MDNR regulation violations that are stricter than RCRA regulations. The violations

are:

a. Manifest prepared by the facility were not completed correctly. The manifest Nos. 91020 and 91021 did not include the license plate number and state of issue required by MHWMC Regulations 10 SCR 25-5.262(2)(B)2C.

b. The manifest No. 91021 did not include the transporter Missouri ID Number as required for out of state shipments by MHWMC Regulations 10 SCR 25-5.262(2)(B)2D.

c. Manifest Nos. 91020 and 91021 did not provide the specific gravity of waste reported as gallons, liters, or cubic yards as required by MHWMC Regulations 10 SCR 25-5.262(2)(B)2I.

15. On April 5, 1991 MDNR sent LOW # 91-NE.007 to Mr. Harold Huggins, Manufacturing Engineering Manager for Knapheide Manufacturing Company, notifying him of the results of the inspection. The LOW referred to the attached inspection report list of unsatisfactory features and the MDNR recommendations for their correction. Response was requested by May 5, 1991.

16. On April 26, 1991, Mr. Huggins responded to the LOW. He stated the facility would comply with all MDNR manifesting requirements, had revised the contingency plan and training documentation, had corrected the aisle space problem in the storage area and agreed to properly dispose of the paint filters and over spray paper when the analysis is completed.

17. On May 28, 1991, Mr. Huggins updated compliance with the LOW by letter. The facility further revised the contingency plan as directed by MDNR employee Sam Wilson during a telephone conversation. Mr Huggins also advised that the paint filters and over spray papers was consolidated on May 21-24, 1991 and was transported to Chief Supply of Tulsa, OK. for disposal by fuel blending.

HISTORIC FACTS

1. On February 9, 1989, MDNR inspection the facility. The inspection revealed the generation of waste xylene (330 gallons/month) and waste oil (55 gallon/month) which is disposed with the xylene.

2. At the time of the February 1989 inspection the following violations were observed: (1) The manifest were inadequate in that they did not contain DOT shipping name for the waste as required by MHWML 10 CSR 25-5.262(2)(a) reference to 40 CFR §262.2(a), (2) placards were not available to transporter as required by MHWML 10 CSR 25-5.262(2) reference to 40 CFR §262.33, (3) open containers at the satellite accumulation points in violation of MHWML 10 CSR 25-5.262(2) reference to 40 CFR §262.34(c)(1)(i), (4) hazardous waste drums at the satellite storage locations were not marked or labeled as required by MHWML 10 CSR 25-5.262(2) reference to 40 CFR §262.34(c)(1)(ii), (5) The hazardous waste storage agreed was not

inspected and logged weekly as required by MHWML 10 CSR 25-5.262(2) reference to 40 CFR §262.34(a)(1) which refers to 40 CFR 165.174, (6) Drums of hazardous waste were not labeled and marked as required by MHWML 10 CSR 25-5.262(2)(c)1 reference to 40 CFR §262.31(a) & (b), (7) ignitable waste was not being stored at least 50 feet from the property line as required by MHWML 10 CSR 25-5.262(2) reference to 40 CFR §§ 262.176 and 265.17(a), (8) inadequate personnel training documents that did not provide the qualification of the employee trainer, contain job titles and the name of employee filling each job, the job description of each person dealing with hazardous waste, or the type and amount of introductory and continued training as required by MHWML Regulation 10 CSR § 25-5.262.(2) referenced to 40 CFR §262.34(a)(4), (9) the contingency plan did not list the address of emergency coordinators as required by MHWML Regulation 10 CSR § 25-5.262.(2) referenced to 40 CFR §262.34(a)(4) and (10) there was no device near the hazardous waste storage area capable of summoning emergency assistance as required by MHWML Regulation 10 CSR § 25-5.262.(2) referenced to 40 CFR §262.34(a)(4).

3. On March 1, 1989 MDNR issued LOW #89-MC005 to the facility requiring remedy to the violations observed during the February 1989 inspection.

4. The facility stated that until September 25, 1989, the ignitable waste (D001) was burned in an on-site solid waste incinerator manufactured by Brule. The incinerator was installed in 1980 and was issued a MDNR Air Pollution Control Program Permit #0280-001. The incinerator was permitted to handle solid waste.

5. On September 25, 1989, MDNR conducted an inspection of Knapheide of the facility and determined that the solid waste incinerator was unusable. MDNR observed the open burning of paint solids, paint filters and over spray papers which were identified as ignitable hazardous waste. The inspection did not discuss EP Toxicity sampling.

11. On October 3, 1989, MDNR sent a Report of Complaint investigation and NOV Number 3067 to Knapheide for violation of the Missouri Air Conservation Commission Regulation 10 CSR 10-3030, "Open Burning Restrictions." MDNR required the facility to stop the open burning and to arrange proper disposal of the hazardous waste. This letter also documents a previous NOV sent to Knapheide for the same air violation on November 8, 1979.

VIOLATIONS

1. Failure to make waste determinations on paint filters and over spray paper as required by MHWML Regulations 10 SCR 25-5.262(2) referenced to 40 CFR § 262.11. The inspection revealed that paint waste from the vinyl wash line has not had a waste determination for TCLP. Also waste determination have not been made for the ash from the treatment of D007 waste in the Brule incinerator.

2. Illegally operated an hazardous waste storage and treatment facility without a permit as required by 40 CFR § 264 or interim status under 40 CFR § 265.

3. Failure to comply with LDR notifications for hazardous waste manifested off-site as required by 40 CFR § 268.7. *- Failed to maintain copies when able*

4. Failure to maintain adequate aisle space in the hazardous waste storage facility as required by MHWMC Regulations 10 SCR § 25-5.262(2) reference to 40 CFR § 262.34(a)(4) reference to 40 CFR § 265.35.

5. Failure to maintain an updated Contingency Plan as required by MHWMC Regulations 10 SCR 25-5.262(2) reference to 40 CFR § 262.34(a)(4) reference to 40 CFR § 265.54.

6. Failure to maintain proper training documentation on site as required by MHWMC Regulations 10 SCR 25-5.262(2) reference to 40 CFR § 262.34(a)(2) reference to 40 CFR § 265.16(d)(4).

7. Failure to properly manifest hazardous waste in that the hazardous waste Manifest Nos. 91020 and 91021 did not include the license plate number and state of issue as required by MHWMC Regulations 10 SCR 25-5.262(2)(B)2C.

8. Failure to properly manifest hazardous waste in that the Hazardous Waste Manifest No. 91021 did not include the transporter Missouri ID Number as required for out of state shipments by MHWMC Regulations 10 SCR 25-5.262(2)(B)2D.

9. Failure to properly manifest hazardous waste in that the Hazardous Waste Manifest Nos. 91020 and 91021 did not provide the specific gravity of waste reported as gallons, liters, or cubic yards as required by MHWMC Regulations 10 SCR 25-5.262(2)(B)2I.

10. Failure to properly manifest hazardous waste in that the Hazardous Waste Manifest Nos. 91020 and 91021 did not include the alternate designated facility or instructions to the transporter to return the waste to the generator if the waste is undeliverable as required by MHWMC Regulations 10 SCR 25-5.262(2) referenced to 40 CFR § 262.20(c) and (d).

REMEDIES SOUGHT

1. Make proper waste determination on all waste streams as required by MHWMC Regulations 10 SCR 25-5.262(2) referenced to 40 CFR § 262.11 within 45 days of receipt of the order.

2. Prepare and submit a Closure Plan to EPA and MDNR to close the illegal RCRA storage and treatment units within 60 days of receipt of this order as required by MHWMC Regulations 10 SCR 25-5.26 (?) referenced to 40 CFR § 265. Upon approval of the Closure plan by MDNR, immediately implement the Plan.

3. Comply with all 40 CFR § 265 requirements until the unit is closed in accordance with RCRA.

4. Use proper LDR notification with manifested hazardous waste as required by 40 CFR § 268.7 and provide a copy of a LDR notification provided with a manifest within 60 days of receipt of this order. Obtain from the transporter or disposal facility any copies of previous LDR notifications and provide the EPA Region 7 copies within 45 days of receiving this order.

5. Document by Photograph(s) the correcting of the inadequate aisle space in the hazardous waste storage facility as required by MHWMC Regulations 10 SCR § 25-5.262(2) reference to 40 CFR § 262.34(a)(4) reference to 40 CFR § 265.35 within 20 days of receiving this order.

6. Present an updated Contingency Plan that complies with MHWMC Regulations 10 SCR 25-5.262(2) reference to 40 CFR § 262.34(a)(4) reference to 40 CFR § 265.54 within 30 days of receiving this order.

7. Correct the training documentation problem as required by MHWMC Regulations 10 SCR 25-5.262(2) reference to 40 CFR § 262.34(a)(2) reference to 40 CFR § 265.16(d)(4) within 30 days of receiving this order.

8. Notify in writing EPA how the facility intends to correct the numerous manifest hazardous waste problems within 30 days of receiving this order. Provide copies of the next two manifest shipped after that corrections are made.

**** TSO FOREGROUND HARDCOPY ****
DSNAME=PZUINDX.BENOUT90.DATA

KNAPHEIDE-CLOSURE COST

BEN90 MAY 16, 1992

A.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE IN 1986 DOLLARS \$	7560
B.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS \$	7560
C.	VALUE OF DELAYING EMPLOYMENT OF POLLUTION CONTROL EQUIPMENT BY 75 MONTHS PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS \$	4199
D.	ECONOMIC BENEFIT OF A 75 MONTH DELAY IN 1986 DOLLARS (EQUALS B MINUS C) \$	3361
E.	THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT DATE, 75 MONTHS AFTER NONCOMPLIANCE \$	9506 =====

-->-->-->-->--> THE ECONOMIC BENEFIT CALCULATION ABOVE <--<--<--<--<--
USED THE FOLLOWING VARIABLES:

USER SPECIFIED VALUES

1A.	CASE NAME = KNAPHEIDE-CLOSURE COST	
1B.	STATUTE =	RCRA (OTHER THAN UST)
1C.	PROFIT STATUS =	FOR-PROFIT
2.	INITIAL CAPITAL INVESTMENT = \$	0
3.	ONE-TIME NONDEPRECIABLE EXPENDITURE = \$ (TAX-DEDUCTIBLE EXPENSE)	15000 1986 DOLS
4.	ANNUAL EXPENSE = \$	0
5.	FIRST MONTH OF NONCOMPLIANCE =	3, 1986
6.	COMPLIANCE DATE =	6, 1992
7.	PENALTY PAYMENT DATE =	6, 1992

STANDARD VALUES

8.	USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =	15 YEARS
9.	MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =	49.60 %
10.	MARGINAL INCOME TAX RATE FOR 1987 AND BEYOND =	38.40 %
11.	ANNUAL INFLATION RATE =	4.10 %
12.	DISCOUNT RATE: CORPORATE EQUITY RATE =	18.10 %
13.	AMOUNT OF LOW INTEREST FINANCING = \$	0

KNAPHEIDE-ASSURANCE COST

BEN90 MAY 16, 1992

A.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE IN 1986 DOLLARS	\$	201924
B.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	238677
C.	VALUE OF DELAYING EMPLOYMENT OF POLLUTION CONTROL EQUIPMENT BY 75 MONTHS PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	110861
D.	ECONOMIC BENEFIT OF A 75 MONTH DELAY IN 1986 DOLLARS (EQUALS B MINUS C)	\$	127816
E.	THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT DATE, 75 MONTHS AFTER NONCOMPLIANCE	\$	361532 =====

-->-->-->--> THE ECONOMIC BENEFIT CALCULATION ABOVE <--<--<--<--<--
USED THE FOLLOWING VARIABLES:

USER SPECIFIED VALUES

1A.	CASE NAME = KNAPHEIDE-ASSURANCE COST	
1B.	STATUTE =	RCRA (OTHER THAN UST)
1C.	PROFIT STATUS =	FOR-PROFIT
2.	INITIAL CAPITAL INVESTMENT	= \$ 0
3.	ONE-TIME NONDEPRECIABLE EXPENDITURE =	\$ 0
4.	ANNUAL EXPENSE =	\$ 50000 1986 DOLS
5.	FIRST MONTH OF NONCOMPLIANCE =	3, 1986
6.	COMPLIANCE DATE =	6, 1992
7.	PENALTY PAYMENT DATE =	6, 1992

STANDARD VALUES

8.	USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =	15 YEARS
9.	MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =	49.60 %
10.	MARGINAL INCOME TAX RATE FOR 1987 AND BEYOND =	38.40 %
11.	ANNUAL INFLATION RATE =	4.10 %
12.	DISCOUNT RATE: CORPORATE EQUITY RATE =	18.10 %
13.	AMOUNT OF LOW INTEREST FINANCING =	\$ 0

KNAPHEIDE-ASSURANCE COST

BEN90 MAY 16, 1992

A.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE IN 1986 DOLLARS	\$	201924
B.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	238677
C.	VALUE OF DELAYING EMPLOYMENT OF POLLUTION CONTROL EQUIPMENT BY 18 MONTHS PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	201871
D.	ECONOMIC BENEFIT OF A 18 MONTH DELAY IN 1986 DOLLARS (EQUALS B MINUS C)	\$	36806
E.	THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT DATE, 75 MONTHS AFTER NONCOMPLIANCE	\$	104106 =====

->->->->->-> THE ECONOMIC BENEFIT CALCULATION ABOVE <-<-<-<-<-<-
USED THE FOLLOWING VARIABLES:

USER SPECIFIED VALUES

1A.	CASE NAME = KNAPHEIDE-ASSURANCE COST	
1B.	STATUTE =	RCRA (OTHER THAN UST)
1C.	PROFIT STATUS =	FOR-PROFIT
2.	INITIAL CAPITAL INVESTMENT	= \$ 0
3.	ONE-TIME NONDEPRECIABLE EXPENDITURE =	\$ 0
4.	ANNUAL EXPENSE =	\$ 50000 1986 DOLS
5.	FIRST MONTH OF NONCOMPLIANCE =	3, 1986
6.	COMPLIANCE DATE =	9, 1987
7.	PENALTY PAYMENT DATE =	6, 1992

STANDARD VALUES

8.	USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =	15 YEARS
9.	MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =	49.60 %
10.	MARGINAL INCOME TAX RATE FOR 1987 AND BEYOND =	38.40 %
11.	ANNUAL INFLATION RATE =	4.10 %
12.	DISCOUNT RATE: CORPORATE EQUITY RATE =	18.10 %
13.	AMOUNT OF LOW INTEREST FINANCING =	\$ 0

KNAPHEIDE-AVOIDED DISPOSAL COST

BEN90 MAY 16, 1992

A.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE IN 1986 DOLLARS	\$	75338
B.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	89050
C.	VALUE OF DELAYING EMPLOYMENT OF POLLUTION CONTROL EQUIPMENT BY 42 MONTHS PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	58520
D.	ECONOMIC BENEFIT OF A 42 MONTH DELAY IN 1986 DOLLARS (EQUALS B MINUS C)	\$	30531
E.	THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT DATE, 75 MONTHS AFTER NONCOMPLIANCE	\$	86357 =====

-->-->-->-->--> THE ECONOMIC BENEFIT CALCULATION ABOVE <--<--<--<--<--
USED THE FOLLOWING VARIABLES:

USER SPECIFIED VALUES

1A.	CASE NAME =	KNAPHEIDE-AVOIDED DISPOSAL COST
1B.	STATUTE =	RCRA (OTHER THAN UST)
1C.	PROFIT STATUS =	FOR-PROFIT
2.	INITIAL CAPITAL INVESTMENT	= \$ 0
3.	ONE-TIME NONDEPRECIABLE EXPENDITURE =	\$ 0
4.	ANNUAL EXPENSE =	\$ 18655 1986 DOLS
5.	FIRST MONTH OF NONCOMPLIANCE =	3, 1986
6.	COMPLIANCE DATE =	9, 1989
7.	PENALTY PAYMENT DATE =	6, 1992

STANDARD VALUES

8.	USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =	15 YEARS
9.	MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =	49.60 %
10.	MARGINAL INCOME TAX RATE FOR 1987 AND BEYOND =	38.40 %
11.	ANNUAL INFLATION RATE =	4.10 %
12.	DISCOUNT RATE: CORPORATE EQUITY RATE =	18.10 %
13.	AMOUNT OF LOW INTEREST FINANCING =	\$ 0

KNAPHEIDE-ASSURANCE COST

BEN90 MAY 16, 1992

A.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE IN 1986 DOLLARS	\$	201924
B.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	238677
C.	VALUE OF DELAYING EMPLOYMENT OF POLLUTION CONTROL EQUIPMENT BY 18 MONTHS PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	201871
D.	ECONOMIC BENEFIT OF A 18 MONTH DELAY IN 1986 DOLLARS (EQUALS B MINUS C)	\$	36806
E.	THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT DATE, 75 MONTHS AFTER NONCOMPLIANCE	\$	104106 =====

-->-->-->--> THE ECONOMIC BENEFIT CALCULATION ABOVE <--<--<--<--<--
USED THE FOLLOWING VARIABLES:

USER SPECIFIED VALUES

1A.	CASE NAME = KNAPHEIDE-ASSURANCE COST	
1B.	STATUTE =	RCRA (OTHER THAN UST)
1C.	PROFIT STATUS =	FOR-PROFIT
2.	INITIAL CAPITAL INVESTMENT	= \$ 0
3.	ONE-TIME NONDEPRECIABLE EXPENDITURE =	\$ 0
4.	ANNUAL EXPENSE =	\$ 50000 1986 DOLS
5.	FIRST MONTH OF NONCOMPLIANCE =	3, 1986
6.	COMPLIANCE DATE =	9, 1987
7.	PENALTY PAYMENT DATE =	6, 1992

STANDARD VALUES

8.	USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =	15 YEARS
9.	MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =	49.60 %
10.	MARGINAL INCOME TAX RATE FOR 1987 AND BEYOND =	38.40 %
11.	ANNUAL INFLATION RATE =	4.10 %
12.	DISCOUNT RATE: CORPORATE EQUITY RATE =	18.10 %
13.	AMOUNT OF LOW INTEREST FINANCING =	\$ 0

KNAPHEIDE-AVOIDED DISPOSAL COST

BEN90 MAY 16, 1992

A.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE IN 1986 DOLLARS	\$	75338
B.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	89050
C.	VALUE OF DELAYING EMPLOYMENT OF POLLUTION CONTROL EQUIPMENT BY 42 MONTHS PLUS ALL FUTURE REPLACEMENT CYCLES IN 1986 DOLLARS	\$	58520
D.	ECONOMIC BENEFIT OF A 42 MONTH DELAY IN 1986 DOLLARS (EQUALS B MINUS C)	\$	30531
E.	THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT DATE, 75 MONTHS AFTER NONCOMPLIANCE	\$	86357 =====

-->-->-->--> THE ECONOMIC BENEFIT CALCULATION ABOVE <--<--<--<--
USED THE FOLLOWING VARIABLES:

USER SPECIFIED VALUES

1A.	CASE NAME = KNAPHEIDE-AVOIDED DISPOSAL COST	
1B.	STATUTE =	RCRA (OTHER THAN UST)
1C.	PROFIT STATUS =	FOR-PROFIT
2.	INITIAL CAPITAL INVESTMENT	= \$ 0
3.	ONE-TIME NONDEPRECIABLE EXPENDITURE =	\$ 0
4.	ANNUAL EXPENSE =	\$ 18655 1986 DOLS
5.	FIRST MONTH OF NONCOMPLIANCE =	3, 1986
6.	COMPLIANCE DATE =	9, 1989
7.	PENALTY PAYMENT DATE =	6, 1992

STANDARD VALUES

8.	USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =	15 YEARS
9.	MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =	49.60 %
10.	MARGINAL INCOME TAX RATE FOR 1987 AND BEYOND =	38.40 %
11.	ANNUAL INFLATION RATE =	4.10 %
12.	DISCOUNT RATE: CORPORATE EQUITY RATE =	18.10 %
13.	AMOUNT OF LOW INTEREST FINANCING =	\$ 0

**** TSO FOREGROUND HARDCOPY ****
DSNAME=PZUINDX.BENOUT90.DATA

KNAPHIEDE

BEN90 MAY 15, 1992

A.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE IN 1980 DOLLARS	\$	7560
B.	VALUE OF EMPLOYING POLLUTION CONTROL ON TIME AND OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE REPLACEMENT CYCLES IN 1980 DOLLARS	\$	7560
C.	VALUE OF DELAYING EMPLOYMENT OF POLLUTION CONTROL EQUIPMENT BY ** MONTHS PLUS ALL FUTURE REPLACEMENT CYCLES IN 1980 DOLLARS	\$	2165
D.	ECONOMIC BENEFIT OF A 138 MONTH DELAY IN 1980 DOLLARS (EQUALS B MINUS C)	\$	5395
E.	THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT DATE, 138 MONTHS AFTER NONCOMPLIANCE	\$	36547 =====

-->-->-->-->--> THE ECONOMIC BENEFIT CALCULATION ABOVE <--<--<--<--<--
USED THE FOLLOWING VARIABLES:

USER SPECIFIED VALUES

1A.	CASE NAME = KNAPHIEDE	
1B.	STATUTE =	RCRA (OTHER THAN UST)
1C.	PROFIT STATUS =	FOR-PROFIT
2.	INITIAL CAPITAL INVESTMENT	= \$ 0
3.	ONE-TIME NONDEPRECIABLE EXPENDITURE = (TAX-DEDUCTIBLE EXPENSE)	\$ 15000 1980 DOLS
4.	ANNUAL EXPENSE =	\$ 0
5.	FIRST MONTH OF NONCOMPLIANCE =	11, 1980
6.	COMPLIANCE DATE =	5, 1992
7.	PENALTY PAYMENT DATE =	5, 1992

STANDARD VALUES

8.	USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =	15 YEARS
9.	MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =	49.60 %
10.	MARGINAL INCOME TAX RATE FOR 1987 AND BEYOND =	38.40 %
11.	ANNUAL INFLATION RATE =	4.10 %
12.	DISCOUNT RATE: CORPORATE EQUITY RATE =	18.10 %
13.	AMOUNT OF LOW INTEREST FINANCING =	\$ 0